RNA-protein interactions: an overview.

RNA binding proteins (RBPs) are key players in the regulation of gene expression. In this chapter we discuss the main protein-RNA recognition modes used by RBPs in order to regulate multiple steps of RNA processing. We discuss traditional and state-of-the-art technologies that can be used to study RNAs bound by individual RBPs, or vice versa, for both in vitro and in vivo methodologies. To help highlight the biological significance of RBP mediated regulation, online resources on experimentally verified protein-RNA interactions are briefly presented. Finally, we present the major tools to computationally infer RNA binding sites according to the modeling features and to the unsupervised or supervised frameworks that are adopted. Since some RNA binding site search algorithms are derived from DNA binding site search algorithms, we discuss the commonalities and novelties introduced to handle both sequence and structural features uniquely characterizing protein-RNA interactions.